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Nebulizer Viral Risk

It's everything COVID-19 these days, and infection control is constantly in our thoughts. As a result, an article in *CMAJ's* March edition, "Potential Transmission of Corona Virus by Nebulizer – a Serious, Underappreciated Risk!" has received a great deal of attention.

Nebulizers release small, potentially contaminated aerosol particles into the air, which may be inhaled by staff or resident bystanders. Nebulizer treatment can also trigger cough, increasing the potential to spread pathogens, such as COVID-19 and Influenza. In addition, high doses and extended treatment time can also expose residents to potential adverse effects from nebulized drugs, such as salbutamol.

To limit the risk of disease transmission at this time, *CMAJ* is recommending that all nebulizer treatment be converted to metered dose inhaler (MDI), plus a chamber plus mask (CM). Studies comparing effectiveness of MDI/CM to nebulizer therapy show neither system is superior. A change to MDI/CM will not impact outcomes and will protect residents and staff.

Alberta Health Services has produced a nice chart to assist with the conversion to MDI use. The standard nebulized dose of ipratropium (Atrovent®) is 250mcg. This corresponds to 2 puffs (40mcg) from an Atrovent® inhaler. Higher or lower doses correspond to proportionally more or fewer puffs (e.g. 500mcg nebulized = 4 puffs of Atrovent®, etc.) Nebulized salbutamol (Ventolin®) 2.5mg = 2 puffs from a Ventolin inhaler. Less used budesonide (Pulmicort®), in the common dose of 0.5mg, converts to Flovent® 125mcg, 1 puff. We have a large supply of chambers with masks, costing roughly $45 apiece. A listing of nebulizer users in each facility will be provided today.

Ordering Challenges & Controlled Drugs

In order to protect LTC and retirement home residents, many prescribers have replaced their usual visits with virtual visits. This is typically being done by phone, but also by leveraging tablet and laptop audio-visual technology in some facilities. Regardless of how orders are generated, prescriber order verification and co-signatures can be a challenge to obtain.

Where a prescriber is still in their office or has a home fax, digital orders can be printed from our digital pen program, then faxed to the prescriber to sign and fax back to the facility. Scanning and emailing is another option. A temporary exemption allows pharmacies to receive non-encrypted prescriptions via email. Finally, a temporary switch to non-digital paper; faxed directly to prescribers, and to GeriatRx, can be undertaken.

Controlled Drugs are a special challenge, as pharmacies normally require prescriber signatures for most narcotic products. Health Canada has issued a short-term exemption to the *Controlled Drugs and Substances Act (CDSA)*, allowing verbal authorization of narcotic extensions ("repeats"). We will continue to send narcotic Rx requests, but these can now be returned (faxed) with verbal authorization from prescribers. Our College may soon allow narcotic prescription extension without MD/NP authorization, due to current logistic issues.

Insulin Chart

Further to the Ministry Directive issued last month, GeriatRx has produced an *Insulin Disposal Record* for logging insulin destruction. Please go to the secure section of our website to download and utilize the chart.

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